

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

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## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year)

23-07-2004

Applicant's or agent's file reference  
69995-74638

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

PCT/SE 2004/000514

International filing date (day/month/year)

02.04.2004

Priority date (day/month/year)

02.04.2003

International Patent Classification (IPC) or both national classification and IPC

F01N 3/023

Applicant

Volvo Lastvagnar AB et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Statement**

Novelty (N)	Claims	1-16	YES
	Claims		NO
Inventive step (IS)	Claims	2, 9	YES
	Claims	1, 3-8, 10-16	NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO

**2. Citations and explanations:**

The invention concerns a method for the regeneration of a particle filter by raising the exhaust temperature using a specific vehicle transmission. The object of the invention is to achieve a cost-efficient regeneration without the use of additives.

Cited document  
D1: FR2820462

Document D1 is considered to represent the closest prior art. It describes a method to assist the regeneration of a particle filter on a vehicle diesel engine. When conditions are suitable to regenerate the particle filter, the supervisory gear ratio regime is changed to lower gears favouring higher exhaust temperature and flow. The change in gear ratio regime enables filter regeneration to be applied more often and more efficiently.

The invention according to claim 1 differs from the method in D1 in that a first transmission is selected in order to obtain a first temperature where the filter is regenerated with reference to a first particle type, and then selecting a second transmission in order to obtain a second temperature where the filter is regenerated with reference to a second particle type.

Due to these features, the regeneration is achieved with respect to two different particle types.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

Consequently, with the background of D1, the problem is how to design a method where the filter is regenerated with respect to two different types of particles.

Persons skilled in the art are well aware that particle filters can be regenerated at different temperatures depending on the type of particle. Thus, it is considered to be obvious to a person skilled in the art to choose a temperature suited for the particle type to be burnt. This may lead to the use of different temperatures.

Consequently, the invention according to claim 1 lacks an inventive step.

Claims 3-6 relate to slight changes in the method of claim 1. These come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 3-6 also lacks an inventive step.

The vehicle according to claims 7, 8 and 10-13 and the computer program/product of claims 14-16 also lack an inventive step when using the same argumentation as for the method of claims 1 and 3-6.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawing or on the question whether the claim are fully supported by the description, are made:

It is clear from the description on page 3 that the features of claim 2 are essential to the definition of the invention. It is only when using a catalyst with optimal operation temperature in the first temperature region that the filter is regenerated with respect to the first particle type. Since independent claim 1 does not contain these features, it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

Some of the features in the apparatus claims 7-13 relate to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from these claims, contrary to the requirements of Article 6 PCT.